

Government-Assisted Housing and Electoral Participation in New York City, 2000-2001

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For a representative democracy to function optimally, citizens from all walks of life should have equal chances to express their preferences through the electoral process. In practice, we know that the actual rate of electoral participation varies greatly depending on individual circumstances and social settings. Better off, better educated, non-Hispanic white citizens are more likely to vote; poor, less educated, and minority individuals are much less likely to do so. Gaining a better understanding of why and how this might be so is crucial for moving toward a more democratic polity.

Early voter studies showed strong correlations between race, income, education, growing up in an English-speaking family, living in owner-occupied housing, and being older with the likelihood of voting (Campbell, Miller, Converse, and Stokes 1960). Though the evidence is not as well developed on this point, it also seems likely that geographically concentrating people who lack these traits further depresses their likelihood of voting. Finally, the political system may have distinctive features (with an important spatial dimension) that facilitate or impede electoral participation, particularly by influencing whether or not candidates or parties seek to mobilize voters living in a given area. They may or may not target political messages and other get-out-the-vote efforts on a given area; these areas may have a strong or weak political infrastructure; they have or lack other local institutions that facilitate electoral participation.

Debate still rages about the extent to which the variation of turnout across socioeconomic groups may be attributed to individual characteristics, the failure of the political system to present individuals with salient political choices, or institutional barriers deterring low-income individuals from connecting to mainstream political activity (Piven and Cloward 2000). Certainly, low-income, poorly educated individuals have often been able, given the means and reasons to work together, to cooperate to address their common concerns (Warren 2001 is a

recent example in the literature on community organizing). It stands to reason that, regardless of economic resources, low-income individuals in well-organized communities will also participate in elections at higher rates. Thus, contextual as well as individual factors are likely to be important in shaping participation rates. And one key aspect of that context is housing tenure.

Here, we examine the social and ecological basis of political participation in the 2000 presidential election and the 2001 democratic primary and mayoral elections in New York City. We base our analysis on a unique data set that matches items from the long form of the 2000 Census (for 2,217 census tracts in the city) to voter registration and election results from its election districts (5,787 existed as of the 2001 elections). We are particularly interested in determining the nature and extent of the relationship between housing tenure and electoral participation, net of other socioeconomic characteristics.

We know that home ownership is strongly and positively associated with political participation. This may happen because homeowners feel more of a stake in a community, they receive property tax bills that directly remind them of their role in financing public services, and so on. Much less attention has been given to renters (two-thirds of New York City households), or to the effect of specific forms of rental housing, including government-assisted housing. Of these, public housing is particularly prominent and interesting.¹

There are good reasons to suspect that concentrations of government-assisted housing in urban neighborhoods will be associated with lower voter turnout. Subsidized housing, particularly public housing, shelters individuals whose incomes by definition fall at the low end of

¹ Throughout this paper, the terms subsidized housing and government-assisted housing are used interchangeably to denote housing assistance for families administered by agents of the city, state, or federal government. We include project- and household-based subsidies, but exclude housing specifically intended for seniors and other special populations, such as the disabled, the mentally ill, or people with AIDS. Most of the analytical models we employ further distinguish between public and all other forms of subsidized housing.

the distribution, certainly lower than those within the larger private rental market. Moreover, by concentrating female-headed households, adults who are less likely to have steady full-time employment, public housing has been roundly criticized for deterring its residents from participating in mainstream social, economic, and political activities.

But there also reasons to expect the opposite, at least as far as politics is concerned. To the extent that subsidized housing has resulted from community organizing, or is owned and managed by entities that encourage tenant organization, it may develop skills and norms among tenants that engender higher levels of political participation. Tenant organizations may in fact be political building blocks. Certainly, organized residents of subsidized housing may offer an enticing “electoral market” for candidates, party organizations, and other political mobilizers. Research on the political behavior of subsidized housing residents should help us to understand which of these crosscutting mechanisms – the negative effects of concentrated poverty and demobilization, or the positive effects of social capital production and mobilization – might characterize the turnout levels in neighborhoods with subsidized housing concentrations.

Here, we address the specific question of whether the incidence of subsidized rental housing – as opposed to private rental or owner-occupied housing – is associated with higher or lower levels of voter turnout, net of other socioeconomic characteristics. Specifically, this paper examines the relationship between subsidized housing and electoral participation employing linear regression, spatial econometrics, and ecological inference methods. The construction of the data set, the analytical methods, and the limitations of these analytical methods are discussed in more detail below.

Is subsidized housing a barrier to participation or a source of social capital?

Scholars and social critics have excoriated public housing, and to a lesser degree other forms of government-assisted housing, for exacerbating the spatial isolation of the poor. Wilson

(1987) suggests that government housing has raised the barriers to participation for low-income residents in mainstream social, economic, and political life that already existed in the nation's ghettos. Murray (1984) sees subsidized housing as one of many social interventions of the liberal New Deal and Great Society eras that contributed to the creation of a culture of poverty. Despite the contrasting implications, both perspectives lead to the impression that subsidized housing spawns a life apart, beset with dysfunction.

Studies on the politics of siting government-assisted housing indicate that it has been placed in areas with prior concentrations of low-income households (Hirsch 1983; Massey and Kanaiaupuni 1993; Newman and Schnare 1997; Rohe and Freeman 2001). Research on the neighborhood impacts of public housing also indicates that it is significantly associated with subsequent poverty concentration in and around its host neighborhoods, even after taking the prior locational bias of siting into consideration. (Massey and Kanaiaupuni 1993; Schill and Wachter 1995; Goering et al 1997; Carter et al 1998; Holloway et al 1998). And in turn, empirical work on the effects of concentrated neighborhood poverty has found it to be correlated with a variety of social problems including serious violent crime, juvenile delinquency; child maltreatment, school dropout, and chronic unemployment.²

Few studies provide positive portrayals of public housing, though better and worse projects undoubtedly exist. In particular, the New York City Housing Authority (NYCHA), although the largest housing authority in the nation, has a reputation for being among the best managed, providing decent living conditions that are conducive to long tenancy and long waiting lists of applicants.³ Venkatesh's (2000) ethnography of Taylor Homes, a large public housing

² For the relationship between crime and concentrated poverty, see Sampson 1987; Lipsey and Derzon 1998; for juvenile delinquency, see Elliot 1996 and Sanchez-Jankowski 1991; for child maltreatment, see Coulton 1995; for chronic unemployment, see Ricketts and Mincy 1983; for poor youth outcomes in general, see Brooks-Gunn et al. 1997; and overall effects of concentrated poverty, see Wilson 1987.

³ Though Grogan and Proscio (2000: Chapter 8) call public housing a "social Chernobyl," they

project in Chicago, portrays tenant-based governance structures which, at least for a period of time, managed to maintain social organization within the development and open channels of communication with federal housing officials.

Turning again to local political lore, most NYCHA projects have tenant organizations and voter registration campaigns have repeatedly targeted them as places to enroll black and Hispanic voters. (The vast majority of those living in public housing are also citizens, not immigrants.) With large concentrations of identifiable, accessible, and more or less captive voters, public housing developments are the object of recruitment efforts by politicians who would like to use them as an electoral base. As the field coordinator for two of David Dinkins mayoral campaigns observed, “public housing tenants in New York City are organized, they vote, and politicians who want their support pay attention to what they want” (Flateau 2002). At the outset, however, we have reason to believe that a higher prevalence of subsidized housing - public housing in particular - is associated with lower turnout. The relationship between election district turnout and the percentage of its housing units in public housing and all other subsidized housing are depicted in Figures 1A and 1B, respectively. Both charts show clear, if slight, negative relationships.

FIGURES 1A and 1B HERE

How can we best measure electoral participation?

In defining the outcome of interest, one part – the numerator – is relatively straightforward. For every election, the New York City Board of Elections fields voting machines for the city’s 5,622 election districts, or precincts, grouped together in about 1,311 polling

say New York City's Housing Authority “managed for decades to resist the barrage of federal regulations that bankrupted and destroyed public housing in other cities, and continued operating a balanced, widely respected program. Today low-income New Yorkers will wait years for the privilege of paying slightly more for a housing authority apartment than for their current housing – partly because they find the management more responsive and the property better maintained than much of the housing available on the private market.”

places, a number of which are located in the community centers of public housing projects. These voting machines capture the bulk of votes cast; along with absentee and affidavit votes, they yield totals for each election district in every election. Only those who are registered can vote. Currently, New York has about 3.7 million registered voters, a figure that has climbed steadily over the last decade as the city's adult population has grown and the naturalization and registration rate among adult immigrants has increased faster than the decrease of the native population. (Currently, New York has about 4,806,000 voting age citizens, suggesting about a 78 percent registration rate.)

Of course, different kinds of elections draw different kinds of electorates to the polls. As Table 1 shows, Presidential elections tend to draw the largest and broadest electorates, though this has varied from 1.8 to 2.2 million votes over the last decade. Traditionally, gubernatorial elections have drawn the second largest electorates, recently in the 1.5 to 1.6 million range, but they were eclipsed by the hotly contested mayoral elections between David Dinkins and Rudy Giuliani, which drew almost 1.9 million voters in 1989 and 1993. On the other hand, the 1997 and 2001 elections drew much less interest from voters, weighing in at 1.4 and 1.5 million, respectively.

TABLE 1 HERE

Finally, Democratic primaries had, until 1993, largely determined the final victor in a city where registered Democrats enjoy a five to one advantage over registered Republicans, as indicated in Table 2. The hotly-contested 1989 primary drew a record 1.1 million Democrats out to vote, but the subsequent primaries featured a heavily-favored incumbent in 1993 (0.5 million voters), two candidates who were evidently not wildly popular in 1997 (0.4 million votes), and a more heavily contested field in 2001 that nonetheless did not include a black or Latino candidate (0.8 million votes). Since the primaries are more likely to feature candidates who explicitly

appeal to the heavily Democratic black and Latino communities, minority voters turn out at higher levels relative to the overall mean turnout in these elections, while the general elections mostly feature two white candidates, and the minority turnout is somewhat lower relative to the overall mean. Finally, though gender is less frequently studied as an aspect of turnout than race, income, and education, it should be noted that New York City's electorate is predominantly female, especially in minority neighborhoods.

TABLE 2 HERE

One way to approach turnout is to examine the number of votes cast in relationship to other factors, such as the size of the voting age population in a given election district, the number of noncitizens, the numbers with high and low education, and so on. In such an approach, however, the number of voting age citizens, and especially the number of registered voters, is overwhelmingly the strongest predictor. As a result, turnout is generally measured in relationship to some denominator, generally voting age population or registered voters. (Since New York's population is so heavily foreign-born, citizen voting age population is the better denominator. Recent studies of felony disenfranchisement also suggest that this is also an important factor in reducing the size of the eligible electorate in places like New York City, especially its poor black and Latino neighborhoods.)

Because lack of registration is an absolute bar to participation, many studies use voter registration as the denominator for analyzing turnout, and we adopt that approach here. It is important to note, however, that not all registered voters are "real." The Board of Elections is not rigorous about removing people from the rolls who have moved away or died. Voter registration campaigns have also added a good many people to the rolls who are evidently not motivated to go to the polls and cast ballots. Table 3, Year of Most Recent Vote by Year of Registration, suggests the dimensions of both these problems. It shows that about 300,000

voters who registered and voted before the last political cycle of presidential and mayoral elections did not do so after 1994; these voters are most probably lost from the electorate. And one out of five of registered voters has never cast a ballot, including 210,000 who registered before 1996, almost 250,000 who registered in the 1996-1999 election cycle, and 262,000 who registered for the most recent presidential and mayoral elections. Thus “active” electorate – those who have shown that they are available to vote because they voted in at least one election between the 1996 presidential election and today, is more like 2.7 million voters, not the 3.7 million registered. An alternative to using registered voters, therefore, is to use “active” voters. In practice, however, the correlation between an election district’s registered voters and active voters is .958 in 2000 and .962 in 2001, we will present turnout in the standard form, as a ratio of votes cast to total registered voters.

TABLE 3 HERE

What determines electoral turnout?

Decades of research on voting behavior have centered on three intertwining determinants of electoral participation relevant to this study: the inherent features of individuals and the resources possessed by them; the individual decision to vote; and the social context of voting, including social networks and partisan mobilization.

Early election surveys identified what later became axiomatic in election studies: the poor, people of color, and the less educated are less likely to vote. These voting studies typically attribute lower electoral participation to a lower sense of political efficacy (Campbell et al 1960). More recent election surveys elaborate models of electoral decision-making based on the character and previous record of candidates and the salience of issues brought to bear during the campaigns (Miller and Shanks 1996). Although such studies introduce the possibility that the substance of campaigns may affect voter behavior, lower participation rates persist

among the poor, minority groups, and the less educated, which these studies attribute to depressed levels of political efficacy.

The social choice perspective conceptualizes the decision to vote as an individual cost-benefit calculation involving the (slight) probability that one's single vote would affect the outcome, multiplied by the benefit of having one's candidate in office, and adding in one's sense of duty, but subtracting the cost of gathering enough information (including information about the candidates and knowledge of registration and voting procedures) and going to the polls. Since the probability that one vote would affect the outcome of an election is exceedingly small, this calculus generally boils down to the strengths of one's sense of civic-mindedness or duty versus the generally slight costs associated with voting (Downs 1957; Riker and Ordeshook 1973). At base, then, this is also an individualist and psychological approach, like the first.

A third, smaller strand of research focuses on the overlapping social contexts which inform political behavior and which may foster or hinder the development of skills and norms that translate to the act of voting. Weak ties like those found in the workplace or densely packed apartment buildings in New York City should foster political discussion, according to Huckfeldt and Beck (1994). Huckfeldt and Sprague's research (1998) on the influence of churches and neighborhoods on political behavior suggests that neighborhood social interaction provides a vehicle for the transmission of political information and guidance.

Finally, recent approaches have sought to synthesize these three strands of voting research. Verba, Scholzman, and Brady (1995) find that political participation requires both motivation and skills. They think that education and parenting provide the motivation to participate in politics, which the authors term "civic voluntarism." They also find that associational affiliations can hone the skills needed for political participation (particularly participation in church activities). We can extrapolate from this work the suggestion that living in

subsidized housing, to the extent that it involves or promotes participation in a tenant's organization, may have a positive association with electoral turnout.

One of three relevant studies examining the political participation of low-income residents has in fact found such a positive association: residents of state-administered tenant-co-ops in New York City who participated in organizing meetings and who, through collective problem solving, successfully improved conditions in their buildings, were significantly more likely to feel politically empowered *and to vote* when compared to their counterparts who neither participated in meetings nor successfully improved their living conditions (Saegert and Winkel 1996). Two other studies, however, found something quite different. A study of political attitudes and participation in Detroit found that residents of census tracts where 30 percent of the households lived in poverty found that they were significantly more likely to believe that a range of political activities would be effective, but significantly less likely to engage in any of these activities. (Cohen and Dawson 1993) Alex-Assenoh (1998) also found that living in concentrated poverty produces social isolation that leads to lower electoral political involvement.

According to Rosenstone and Hansen's synthesis (1995), levels of political participation result from an interaction between individuals and the larger political system. Like others in the individualist vein, they reason that individuals with higher incomes and more education want to vote because they are socialized with civic values. But they also focus on how partisan leaders attempt to achieve an electoral "multiplier effect" by directly mobilizing wealthy individuals and others who are believed to have influence because they hold leadership positions in social networks or organizations (such as the socially well-connected, long-term residents, or church or union leaders). This model suggests that political elites might seek to mobilize long-term residents and tenant organization leaders in subsidized housing developments to achieve such a multiplier effect. Or conversely, as Cohen and Dawson found in Detroit (1993), it could

suggest that people living in concentrated poverty, including subsidized housing residents, are effectively shut out of the electoral process because they are not targets of electoral mobilization.

As briefly described above, the New York City experience and the academic literature suggest that different kinds of elections elicit different kinds of electorates, with the rate of voting and the *composition* of the electorate varying across geography. Clearly, presidential, mayoral, or legislative elections may be expected to activate different groups (and different places). Although national turnout rates have been declining since 1960 (Rosenstone and Hansen 1995), presidential general elections involve the largest expenditure of funds by candidates and parties, the most media attention, the greatest public interest, and, hence, the greatest participation. According to the official recapitulation, 105,594,024 people turned out to vote in the 2000 presidential election, or 54 percent of the 195.3 million voting age citizens (no national figures are kept on the total number of registered voters.) This was up slightly from the 97 million votes cast in the 1996 presidential election. (In New York City, as noted above, 2,280,429 votes were cast in the presidential election, roughly 47.5 percent of the estimated 4,807,000 voting age citizens.) Lesser elections, such as for governor or the off-year House elections, elicit smaller electorates (only 66.6 million for the Congressional elections of 1998). Similarly, municipal elections, held in odd years off the federal election cycle, often as nonpartisan races, tend to elicit even smaller electorates; in municipal off-years, when city councils are elected, participation plummets further.

From the overall literature, therefore, we can expect to find the following relationships in our New York City data. From the individual-level studies, we would expect that Hispanics and Asians turn out at a lower rate than whites; that lower income individuals and renters turn out less than higher income individuals and homeowners; and that poorly educated people are less

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likely to vote than highly educated ones. From the more contextual studies, we would expect that neighborhoods with more residential stability, and perhaps also residential density, would turn out at higher levels than neighborhoods with more turnover; certainly, we would expect neighborhoods where English is predominant, and where more residents are natives and citizens, to turn out more highly than neighborhoods where many people speak other languages and are noncitizen immigrants. We also expect a negative effect from concentrated poverty. As to housing tenure, our initial expectation is ambiguous: it could be that government-assisted housing concentrates poverty and social dysfunction, but it could also be that it fosters tenant organization. Regardless of the general relationship between government-assisted housing tenure and electoral participation, given the greater higher percentage of people of color voting in Democratic primaries as a rule, we expect to find a more positive relationship in the Mayoral primary than in either of the two general elections. To find out whether and how these expected relationships hold, let us turn to the data.

The data set and its elements

As previously stated, our data set matches information from the New York City Board of Elections (which reported election results and voter registration for 5,662 election districts in 2001), the 2000 Census Summary File 3 (long form data collected for 2,217 Census Tracts), and a file compiled at the CUNY Center for Urban Research containing 18,080 addresses of most government-supported housing projects (including federal and state-funded public housing, the federal Section 8 new construction and substantial rehabilitation program, federal Section 236 units, the city's own construction and rehabilitation programs, and units receiving Low Income Housing Tax Credits (LIHTC)) as well as tract-centroid point locations for holders of Section 8 certificates and vouchers throughout the city. Figure 2 illustrates the spatial distribution of public and all other subsidized buildings; Figures 3 and 4 illustrate the frequency

distribution of subsidized buildings and units, respectively (excluding Section 8 certificates and vouchers). Note that public housing accounts for 24 percent of the buildings and 38 percent of the units of government-assisted low rent housing in New York City. In other words, most public housing units are in large buildings compared to the other programs; Section 236 and Section 8 New Construction and Substantial Rehabilitation units are also in relatively large buildings compared to the other programs.

FIGURES 2 THROUGH 4 HERE

Below, we discuss the development of the three analytical methods we used to determine the extent of the association between turnout and subsidized housing, controlling for other socioeconomic characteristics. First, we conduct a series of multivariate weighted least squares (WLS) models incorporating as predictors measures of individual- and neighborhood-level characteristics in addition to percent public and other subsidized housing. We then introduce spatial regression techniques used to test and control for the effects of turnout in neighboring election districts. Finally, the results of ecological inference models are presented to assess whether the aggregated results may be appropriately generalized to the individual level.

The least squares regression models are weighted by the number of registered voters in each election district during the relevant election for both substantive and statistical reasons. First, we are more interested in the average voter than in the average election district, which vary greatly in number of voters they contain. Since it is the margin in overall vote, not the number of election districts won, that determines election outcomes, election districts with larger populations clearly have a greater impact on electoral outcomes. Second, analyses conducted following initial ordinary least squares analysis (OLS) revealed error terms that were highly correlated with the size of the electorate in each district.

Our three dependent variables are turnout rates for the 2000 presidential election, the

2001 Democratic mayoral primary, and the 2001 mayoral election. As explained above, all are measured by the total number of votes cast divided by the number of registered voters in each district. (For a sense of how turnout distributions play across New York City, see Figures 5 through 7.)

FIGURES 5 THROUGH 7 HERE

We first selected 27 demographic variables measuring social and neighborhood factors that we expected, from the election studies reviewed above, to explain much of the variation in voter turnout. (The measures are expressed as percentages of the election district population unless otherwise noted). We began with measures of race and Hispanic ethnicity; the prevalence of immigrants, their time of arrival in the United States, and citizenship status; income distribution, median and per capita income, poverty, and labor force participation; rates of college education and high school drop outs for the 18-24 population and everyone 25 or older; household composition, family form, and relation of children to working parents; population density, number of units in buildings, and home ownership status.

We then determined that high levels of bivariate and partial correlation existed among many of these potential independent variables, making it difficult to isolate their respective independent effects through a traditional regression approach. We conducted principal components analysis to distinguish the latent constructs represented by the 27 measures and to attempt to resolve the multicollinearity problem. Six components were extracted, representing poverty, new immigration, population density, predominance of persons over 65 years of age, percentage of the voting age population that is Hispanic/Latino, and living in institutional group quarters (for example, a jail or juvenile facility).

We compared three models, using as predictors: 1) the six factor scores; 2) six summed scales formed with variables loading at 0.60 and higher on each component; and 3) indicator

variables with the highest loadings on each component. With respect to preserving construct validity, the factor scores, summed scales, and indicator variables were highly correlated with one another (mean $r = .62$; $p < .001$). With respect to reducing collinearity (assessed through variance inflation factors), the model with orthogonal factor scores performed best, as would be expected, followed by the indicator variables, and then the summed scales; but none of the models yielded variance inflation factors greater than 3.3. With respect to the overall variance explained and the specific results produced, however, the results of the three methods were virtually indistinguishable. We chose to run the models with the individual indicator variables, for ease of interpretation since most predictors and all dependent variables are measured as percentages. In the end, seven predictors – in addition to public housing and all other forms of subsidized housing – were selected. Table 4 contains descriptive statistics for all of the variables included in the WLS regression models.

TABLE 4 HERE

For each election, the results of four WLS regression models are presented below (designated Models 1, 2, 3, and 4 in Tables 5, 6, and 7). The first WLS models (Model 1) control for two indicators of the prevalence of people eligible to participate in elections (percent of the population born outside of the U.S. and living in institutional group quarters) and four measures of demographic characteristics selected through the method described above (percent of people living in households with incomes below the poverty level, percent of units in buildings with 10 or more units, percent of population aged 65 or older, and percent of the voting age population that is Hispanic/Latino). Note that institutional group quarters are fairly rare in New York City (the mean is only 0.8 percent), and do not hold much of the city's population, but they can have a significant impact where they are located. The typical election district has a sizable foreign-born population and the variation in the foreign-born population is considerable (mean=33.5;

standard deviation=16.4). Similarly, poverty, percentage of units in buildings with 10 or more units (an indicator of population density), the elderly proportion, and the college-educated proportions are substantial and vary considerably.

The second WLS model (Model 2 in Tables 5, 6, and 7) introduces the main subsidized housing variable of interest: the share of an election district's dwelling units in public housing (mean of 6.2 percent and standard deviation of 21.0). The third model (Model 3) also includes the percentage of dwelling units that are in any other subsidized housing, including Section 236, Section 8 new construction and substantial rehab, the City's Ten Year Housing Plan, and smaller and more dispersed programs of Section 8 vouchers and certificates and the LIHTC units (mean=9.0; SD=19.5). The fourth WLS model includes the distance from each ED centroid to the nearest polling place in hundredths of a mile (52.8 feet), to control for the effects of the proximity of the polling place – 21 percent of which are within 105 feet of public housing developments – on turnout.

Spatial and ecological models were conducted to address two important limitations of standard least-squares regression methods. First, standard regression assumes the independence of each observation. We suspect, however, that electoral participation is an inherently spatial process: what happens in one election district is likely to affect what happens in its neighbors. For example, active political clubs probably mobilize voters beyond the boundaries of the election districts in which they are located. Such “spillover” introduces spatial autocorrelation into standard regression models. Left unestimated, spatial autocorrelation potentially results in biased estimates and misleading tests of statistical significance (Anselin 1999; Galster, Smith, and Tatian 1999; Bailey and Gattrell 1995). As a remedy, we specify a spatial lag model in which the weighted average of turnout in bordering election districts is

added to the model as an independent variable. The results of the spatial lag models, including parameter estimates of the spatial lags, are shown in the final columns of Tables 5 through 7.

Second, this is an analysis of ecological data which, as has long been known, poses the threat of estimating seriously wrong coefficients for the independent variables relative to what the underlying individual behavior might be (Robinson 1950, King 1997). In the linear regression, we examine the *aggregate* relationship between the extent of public and other subsidized housing and voter turnout across election districts, which may *not* be an accurate reflection of whether the residents of public or other subsidized housing themselves are more or less likely to vote. As a result, we cannot be certain that any effects we might discover at the election district level will hold true at the individual level, or might instead be attributed to the behavior of those who live within the election districts but outside of the projects. King (1997) has proposed a promising approach to resolving this problem. In Table 8, we report the aggregate turnout predictions generated by ecological regression for residents of public housing, all other subsidized housing, and all subsidized housing for all three elections.⁴

Results

A first observation to draw from Model 1 is that basic demographic factors shape turnout in the ways predicted by the individual-level studies of electoral participation – particularly in the two general elections (Tables 5 and 7). The incidence of poverty is strongly associated with lower turnout: a one percentage point increase in the poverty rate is associated with the

⁴ Unfortunately, King's method is not exploited to its full extent in this analysis. First, although turnout is an aggregate of an individual-level measure, subsidized housing tenure is measured at the household level. To derive a more accurate estimate, we would need to measure the number of individuals in each housing category. Second, King's most basic model employed here allows the inclusion of only one dichotomous independent variable. While we believe that it is critical to take a multivariate approach to control for the socioeconomic composition of election districts, we do not undertake here the computationally intensive second-stage analysis (Adolph and King 2003; Adolph, King, Herron, and Shotts 2002; Herron and Shotts 2003). Nor have we attempted to include a three-way measurement of housing tenure (e.g., public, other subsidized, private housing), which may be introduced in an extension to the basic model. These methods may be applied in a subsequent version of this paper.

reduction in the 2000 general turnout of 0.51 percent, 0.19 percent in the 2001 primary, and .45 percent in the 2001 mayoral general election. A range of one standard deviation above and below the mean poverty level amounts roughly to a 12-point turnout difference in the general elections. As Schattschneider once noted, the flaw in the pluralist heaven is that “the chorus sings with a strong upper class accent” (Schattschneider 1960: 34-35). Smaller though significant negative effects on turnout are also found for the Hispanic voting-age population and persons living in institutional group quarters.

TABLES 5 THROUGH 7 HERE

Second, the results of Model 1 in Table 6 (the 2001 Democratic mayoral primary), provides a contrast to those in Tables 5 and 7 (the general elections). The basic demographic model explains less than half as much of the overall variation in primary turnout than either of the two general elections. Specifically, poverty, the independent variable with the largest depressing impact on turnout, has less than a third of the explanatory power for the primary. In this sense, primary elections are significantly more egalitarian than general elections, even if far fewer people participate. Put another way, primaries interest poorer voters more (or disinterest them less) than do general elections.

In the standard regression, a prevalence of Hispanics among the voting age population had a positive effect on Democratic Primary turnout, while it had a negative effect on turnout in the two general elections. When the spatial lag is introduced in the 2001 primary model, however, the association disappears altogether. While this may be partly attributed to a greater prevalence of Hispanic voters in the primary electorate, it is far more likely that the candidacy of Fernando Ferrer in the primary sparked the interest of Hispanic voters so that they turned out to vote at rates equivalent to the remainder of the population. Controversial events leading to Ferrer's loss to Green in the runoff election undoubtedly brought Latino turnout in the

subsequent 2001 mayoral general election back to a lower level.

Similarly, there is a stark contrast between the slight negative effect of the elderly proportion on presidential turnout and the strong positive effect of the elderly proportion on the mayoral elections. When the spatial lag is introduced into the model, the net effect of the elderly proportion on presidential turnout disappears altogether. This is an unexpected finding, since the elderly are believed to turn out in greater numbers than other age groups in general. In our estimation, the most likely interpretation takes into account the transformation of New York City's elderly population from predominantly white-ethnic to a growing percentage who are black and Latino. If this is so, then the lack of association between the senior population and presidential turnout is probably due to the relative lack of interest in the general election among people of color, also borne out by the effect of the Hispanic voting-age population.

A third observation is that factors never considered by individualist approaches to understanding turnout clearly play an important role. Both population density and the proportion of eligible people within the population have a strong relationship to turnout in all three elections and the positive association persists even after the spatial lag is introduced into the model. Much more needs to be learned about why this is so, but it is reasonable to believe that density and the prevalence of eligible voters create a positive neighborhood effect on turnout on the one hand, and draw the attention of political mobilizers on the other. People living in larger apartment buildings are more likely to encounter their neighbors and perhaps more likely to discuss politics and elections with them. These residents are also more likely to be the targets of voter-canvassing and get-out-the-vote efforts from political campaigns, since so many people can be found in one place, improving the efficiency of such efforts. Similarly, candidates and campaigns, not to speak of the media, will aim their messages at places where most people are likely to be able to act on them, and people who have mostly other eligible citizens around them

are more likely to be interested in local elections. Conversely, people who have less contact with their neighbors and people in immigrant neighborhoods are less likely to be mobilized by candidates. Such contextual effects deserve much greater attention from scholars interested in political participation, particularly in the immigration gateway cities of the United States.

Finally, we turn to the question that initially motivated our research: do neighborhoods with a greater prevalence of subsidized have higher turnout rates, *ceteris paribus*, than those with less or no public housing? Our investigation consistently confirms that the slight negative relationship observed between public housing (Figure 1A) and electoral participation holds even after applying all of the demographic, contextual, and spatial controls. The effect is ever so slight, but it is consistently and statistically significantly negative.

The one area where the incidence of subsidized housing does *not* have a negative effect concerns the role of housing *other* than public housing. Other subsidized housing had no effect on turnout in the 2001 Democratic primary in the standard regression models, and a significantly positive effect in the spatial regression model. Primary candidates Green and Ferrer were probably more effective at drawing voters from a lower income bracket than were Bloomberg, Gore, or Bush, and subsidized housing residents may have been specifically mobilized during this election. When the discrete housing programs are entered into the model in place of the “all-other-subsidized-housing” approach (not shown), election districts with more units in the Mayor’s Ten-Year Housing Program are positively associated with primary turnout (although Section 8, Section 236, and Low-Income Housing Tax Credit units are not). While it is possible that there are unmeasured differences in the individual characteristics of the residents of the various housing subsidy programs, such differences are likely to be negligible. Another more likely explanation is that something occurred in election districts with Ten-Year Plan units that mitigated the otherwise depressive effects of subsidized housing on turnout. Many community

development corporations that developed Ten-Year Plan units are also known for their local political connections. Perhaps these organizations provided a channel for the electoral mobilization of subsidized housing residents.

Finally, we turn to the spatial predictors of turnout. First, we introduced distance to polling place to control for the possibility that such proximity would confound our estimates of the effect of public housing concentrations: a striking 21 percent of the polling places are at or within 100 feet (roughly two city lots) of a public housing development in New York City. Although distance to polling place was measured from the election district centroid, which is not necessarily the center of the district population, it was consistently associated with lower turnout in all three elections - especially in the mayoral Democratic primary. In New York City, where everything is so densely packed in space, it would seem that such a slight distance would not matter. This is not borne out by the results. The practical implication is clear: all other things being equal, highly accessible polling locations boost turnout.

Diagnostics (LaGrange multipliers) indicated that the standard regression models left a great deal of spatial autocorrelation unestimated for all three election models. The spatial lag, introduced to estimate the net effect of turnout in neighboring districts, had a consistently positive effect on turnout. Across the board, a one percent increase in the weighted average of turnout in neighboring districts translated to about a 0.50 percent increase in the reference district. Moreover, in all three elections the spatial lag reduced the parameter estimates of almost all of the variables in the standard regression models with the exception of those for subsidized housing. With the exception of other subsidized housing in the Mayoral Democratic primary (Table 6, discussed above), public and subsidized housing continued to have a negative effect on turnout. (Distance to polling place estimates increased in the two general elections, but decreased markedly in the primary.) Explanation for this mixture of effects must

go beyond the measured similarities among neighboring districts, since they have already been controlled. As has been suggested above, social networks as well as political mobilization by neighborhood organizations and political clubs are likely to extend beyond the confines of a single election district. Whatever set of mechanisms extends the effects of turnout across election districts, be they social networks or partisan mobilization, they did not appear to operate as effectively in neighborhoods with subsidized housing in the two general elections.

Ecological inference estimates. We include ecological inference estimates, although they are not without controversy, because they are the most widely acceptable means for confirming that our aggregate results reflect an underlying, individual-level phenomenon. Specifically, the results of the WLS models provide evidence that higher percentages of public and other subsidized housing have a depressive effect on district turnout levels (at least in the general elections), holding other district characteristics constant. Is it reasonable to interpret this to mean that public housing and other subsidized housing residents are less likely to vote?

We offer some provisos before presenting the results of ecological inference models, however. First, ecological inference (like standard regression) assumes the independence of observations, which we have shown does not apply to these data. Second, in its basic form, ecological inference assumes that there is no aggregation bias in the phenomenon being analyzed (King 1997). The implication for this study is to assume that there is no correlation between public housing turnout and the prevalence of public housing. We can neither confirm nor rule out such a relationship given the available data. Aggregate estimates from ecological inference also are not readily comparable with those derived from our standard or spatial regression where we were able to divide housing tenure into three mutually exclusive categories (i.e., public housing, all other subsidized housing, and the reference group: all private market renters and owners).

Table 8 contains the aggregated turnout estimates from three ecological inference models. For each election, the first model shows estimated turnout for public housing residents versus all others; the second, other subsidized housing residents versus all others; and the third, *all* subsidized housing versus private market renters and owners. Despite the caveats listed above, the aggregate estimates from ecological inference appear generally consistent with our previously reported findings. In the two general elections, turnout is lower in any subsidized housing category than in the group to which it is compared. There was a 14 percentage point differential in all three models for the 2000 Presidential election. The differential ranges from 14 to 19 percentage points in the 2001 Mayoral general election. In all three ecological inference models of 2001 Democratic Mayoral primary turnout, there was slightly lower or equivalent turnout in subsidized housing when compared to any reference group. Also similar to the findings of the standard and spatial regression models, the ecological inference estimates indicate that turnout among subsidized housing residents was more similar to that of private market residents in the Democratic primary than in either of the two general elections.

Discussion

In a sense, we have used measures of physical form – the incidence of units in different types of government-assisted housing programs – as a proxy for what we would really like to know – the incidence or strength of community organizations and other local institutions that provide the substructure for local political participation. It would be nice to have *any* consistent and reliable measure of community organization, but, unfortunately, none presently exists. Possibilities include the census of non-profit organizations conducted by the Non-Profit Coordinating Committee, using the Real Property Assessment Data file to identify and geocode properties belong to religious organizations, or gathering input from informed local observers

about the strength or absence of tenant organizations in local housing developments. Similarly, if we had some good measures across election districts of efforts by political campaigns to mobilize voters, that would also add considerably to our understanding of this process. We encourage those who wish to understand the roles played by political institutions in mobilizing voters to investigate other proxies for this facet of community life, and intend to do so ourselves. That being said, however, it seems unlikely that any such measures would change our conclusion that government-assisted housing projects are not presently important sources of political mobilization in the poor neighborhoods of New York City.

Despite the availability of both spatial regression and ecological inference applications, we are quite a way away from arriving at a statistically satisfactory approach for combining the advantages of both methods. The diagnostics and results of our spatial lag model indicate that spatial considerations are consequential to estimating turnout effects. Although we have included results of ecological inference, the method has been shown to provide inaccurate estimates with spatially autocorrelated data (Anselin and Tam Cho 2002; Tam Cho 1998). While extensions of the basic ecological inference models exist to deal with other issues encountered in this analysis, we are aware of none to have overcome this important obstacle.

In combination, the findings presented here provide considerable evidence that electoral participation is associated with contextual factors, only some of which are directly measured in our models. This does not suggest that individual characteristics do not affect turnout; only that they did not *determine* turnout. Neighborhood and contextual factors clearly operated differently in the primary election than in the two general elections. Although higher percentages of public and other government-assisted housing were negatively correlated with turnout in general, this negative association was weakened in the 2001 mayoral primary. How and to what extent did the candidates' identities, their constituency bases, the issues they addressed, neighborhood

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mobilization, or the after-effects of tenant organization explain the differences between the primary and general elections? The answers, which we hope to pursue through continued research, should help us to understand how effective various mechanisms can be at increasing electoral participation among traditionally low-turnout groups.

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**FIGURE 1A. Percent public housing by turnout in New York City election districts, 2000
Presidential election**



**FIGURE 1B. Percent all other forms of subsidized housing by turnout in New York City
election districts, 2000 Presidential election**



TABLE 1. Votes Cast by Election, New York City

Election	Votes
2000 Presidential Election	2,280,429
1992 Presidential Election	2,122,392
1993 Mayoral General Election	1,888,992
1989 Mayoral General Election	1,864,949
1996 Presidential Election	1,796,233
1994 Gubernatorial Election	1,577,532
1998 Gubernatorial Election	1,536,460
2001 Mayoral General Election	1,480,582
1997 Mayoral General Election	1,409,056
1989 Democratic Mayoral Primary	1,078,482
2001 Democratic Mayoral Primary	780,401
1993 Democratic Mayoral Primary	497,936
1997 Democratic Mayoral Primary	411,303

Source: New York City Board of Elections, January 2002

TABLE 2. Registered Vote by Party, New York City

	Number	Percent
Registered voters	3,737,533	
Democrats	2,532,733	67.8
Declined to Select a Party	610,439	16.3
Republicans	475,058	12.7
Independence Party	46,994	1.3
Liberal Party	24,542	0.7
Conservative Party	22,997	0.6
Right to Life Party	10,881	0.3
Green Party	8,534	0.2
Working Family Party	5,355	0.1
Female registered voters	2,122,300	56.8
Male registered voters	1,615,259	43.2

Source: New York City Board of Elections, January 2002

TABLE 3. Year of Most Recent Vote by Year of Registration, New York City

Year of Registration	Year of Most Recent Vote					Total
	Pre-1996	1996-1999	2000	2001	Never	
Pre-1996	312,888	212,207	407,501	1,195,776	210,017	2,338,389
	13.4%	9.1%	17.4%	51.1%	9.0%	
1996-1999		67,450	185,203	300,616	248,583	802,032
		8.4%	23.1%	37.5%	31.0%	
2000			124,309	150,658	127,804	403,621
			30.8%	37.3%	31.7%	
2001				58,605	134,872	193,571
				30.3%	69.7%	
Total	313,297	280,331	717,054	1,705,655	721,276	3,737,613
	8.4%	7.5%	19.2%	45.6%	19.3%	100.0%

Note: Columns may not sum to total due to missing data.

Source: New York City Board of Elections, January 2002.

TABLE 4. Descriptive statistics, variables in WLS models

	Minimum	Maximum	Mean	Standard Deviation
Turnout, 2000 presidential election	0.52	98.08	62.65	11.01
Number registered voters 2000	1.00	2115	639.53	310.33
Turnout, 2001 Democratic mayoral primary	0.32	84.44	30.37	8.95
Number registered Democrats, 2001	0.00	1627	437.66	253.000
Turnout, 2001 general election	2.17	88.46	39.86	11.514
Number registered voters, 2001	1.00	2005	657.64	320.53
Percent foreign born	0.00	100.00	33.54	16.40
Percent institutional group quarters	0.00	100.00	0.84	4.19
Percent persons under poverty level	0.00	100.00	20.53	13.84
Percent units in buildings with 10 or more units	0.00	100.00	49.33	35.83
Percent persons 65+ years of age	0.00	93.63	12.09	6.09
Percent voting-age population, Hispanic	0.00	100.00	24.01	22.93
Percent households public housing	0.00	100.00	6.22	21.02
Percent households other subsidized	0.00	100.00	9.17	19.48
Distance: district centroid to nearest polling place*	0.00	3.05	0.29	0.25

* Measured in $1/100^{th}$ s of a mile, or increments of 52.8 feet.

FIGURE 2. Geographic distribution of subsidized housing programs in New York City

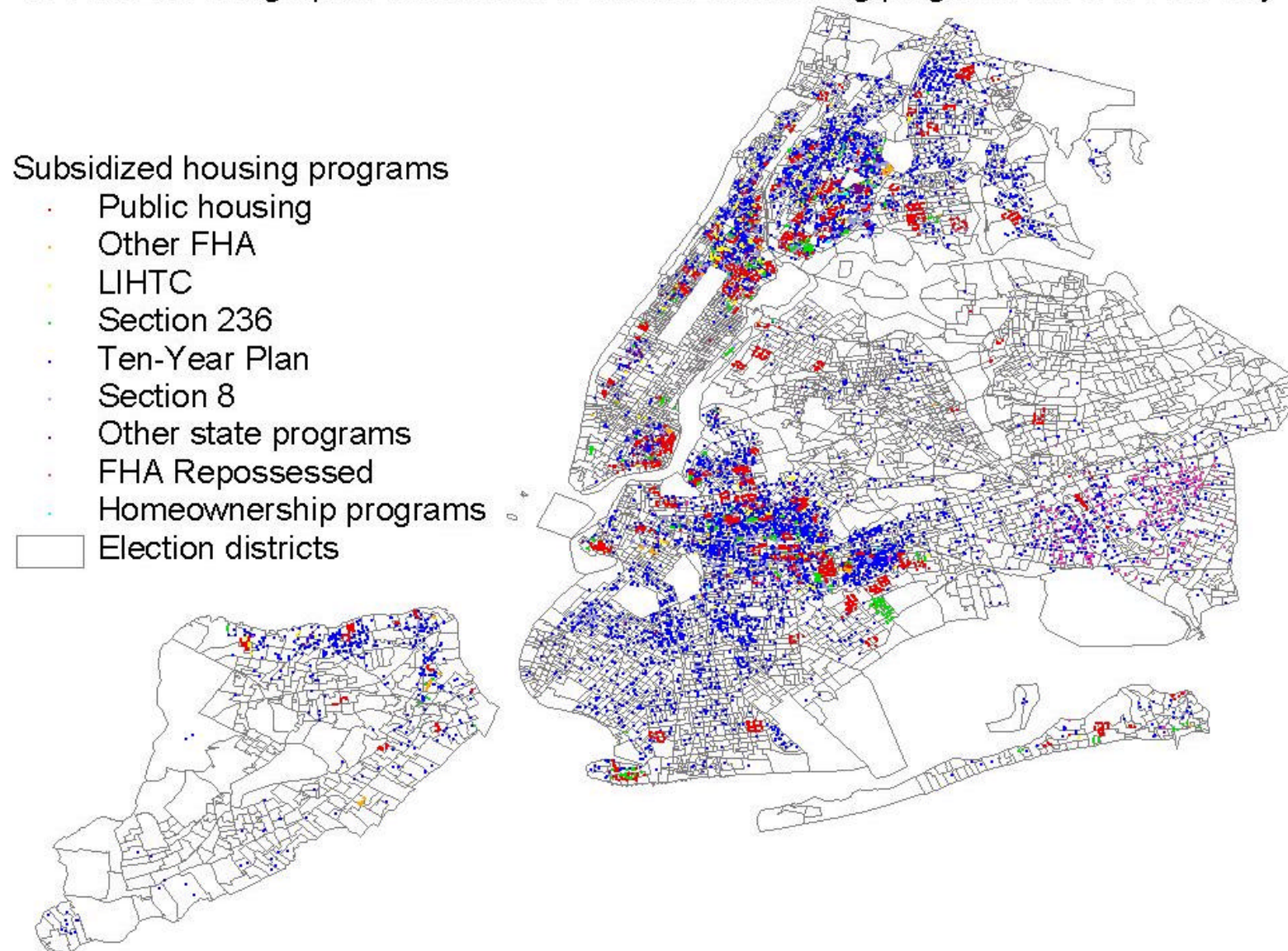


FIGURE 3. Distribution of subsidized buildings in New York City, by program

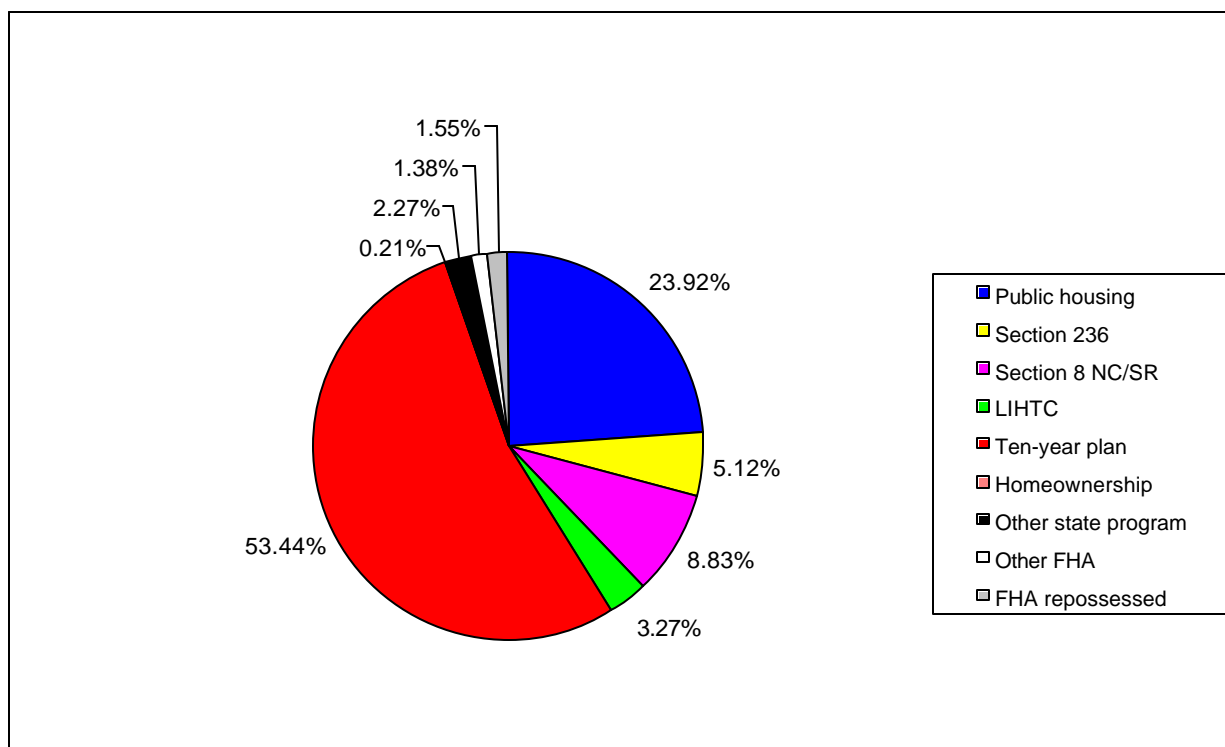


FIGURE 4. Distribution of subsidized units in New York City, by program

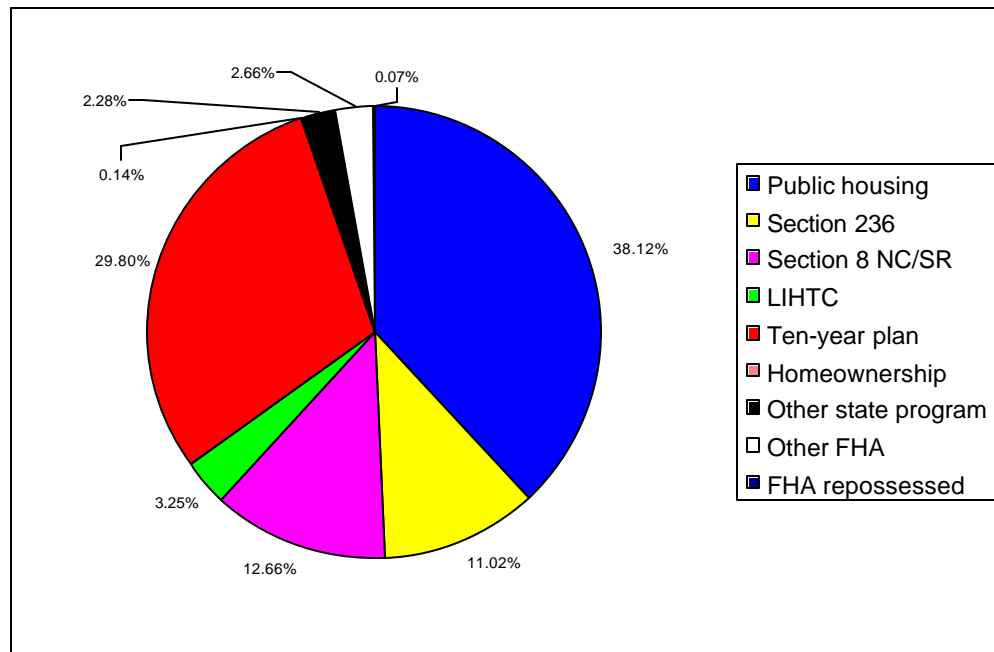


FIGURE 5. 2000 Presidential General Election Turnout in New York City

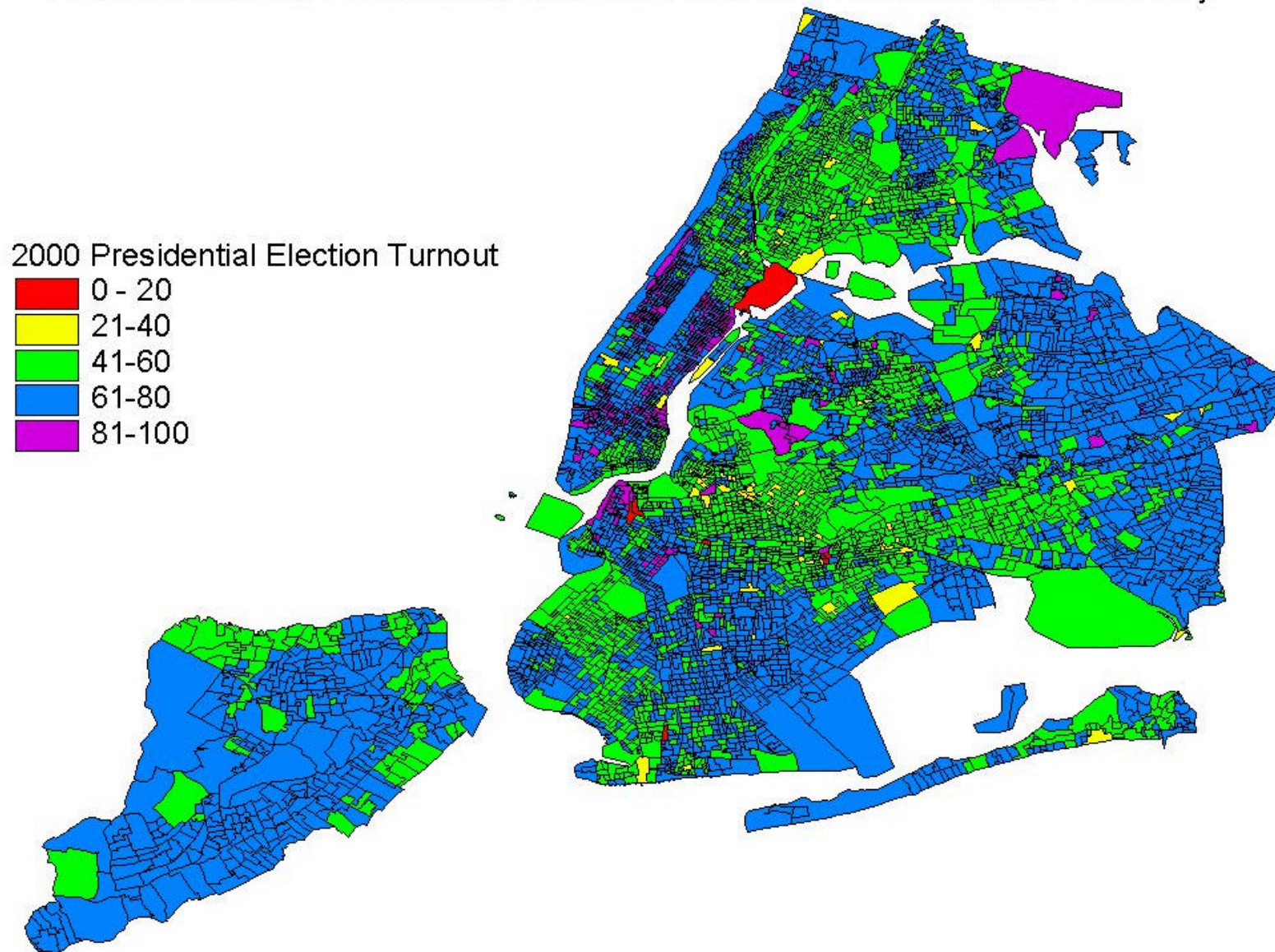


FIGURE 6. 2001 Mayoral Democratic Primary Election Turnout in New York City

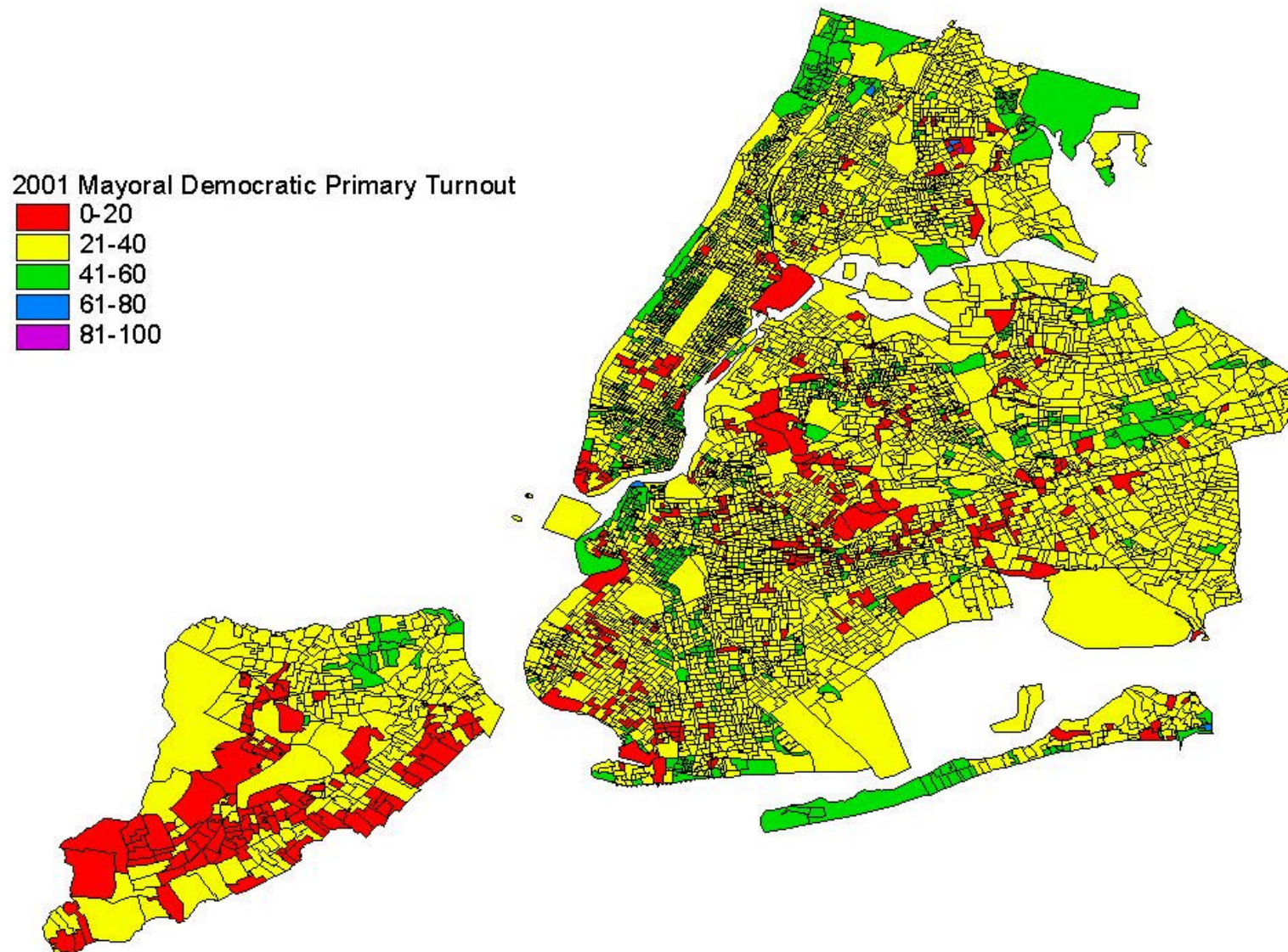


FIGURE 7. 2001 Mayoral General Election Turnout in New York City

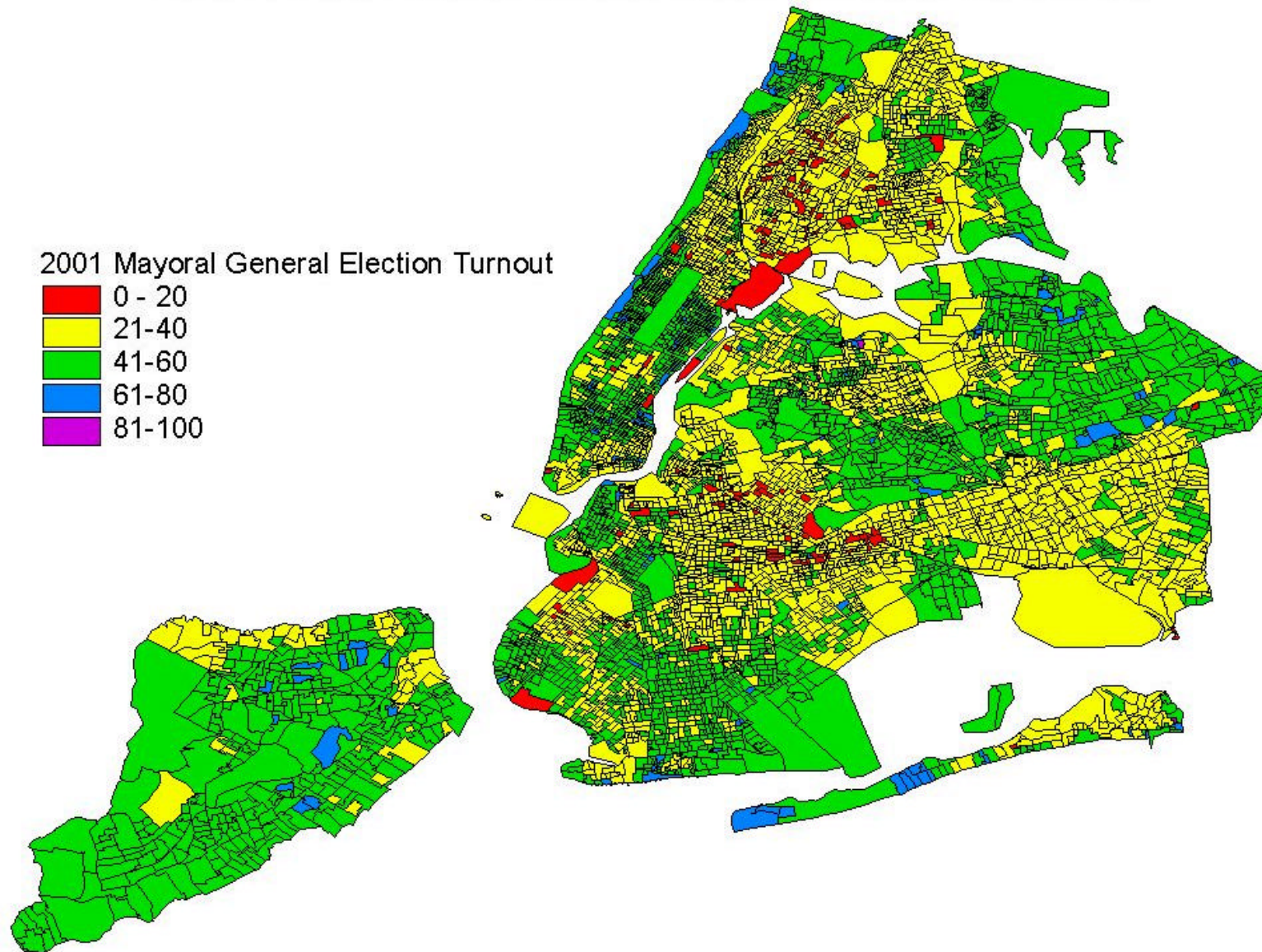


TABLE 5. WLS regression results: Turnout for presidential general election, 2000

Model	1	2	3	4	Spatial Lag
Constant	72.81 (.34)***	72.67 (.34)***	72.63 (.34)***	73.85 (.38)***	40.03 (2.35)***
Spatial lag	-	-	-	-	0.47 (.03)***
Size and eligibility of VAP					
Foreign born	-.06 (.01)***	-0.07 (.01)***	-0.07 (.01)***	-0.07 (.01)***	-0.04 (.01)***
People in institutional quarters	-0.21 (.03)***	-0.22 (.03)***	-0.22 (.03)***	-0.22 (.03)***	-0.19 (.02)***
Demographics					
People below poverty level	-0.51 (.01)***	-0.49 (.01)***	-0.48 (.01)***	-0.48 (.01)***	-0.25 (.02)***
Units in buildings with 10+ units	0.12 (.00)***	0.12 (.00)***	0.12 (.00)***	0.11 (.00)***	0.06 (.00)***
Population age 65 and over	-0.05 (.02)**	-0.04 (.02)*	-0.04 (.02)*	-0.04 (.02)*	0.01 (.02)
Hispanic voting age population	-0.12 (.01)***	-0.12 (.01)***	-0.12 (.01)***	-0.12 (.01)***	-0.07 (.01)***
Subsidized housing					
Units in public housing	-	-0.03 (.00)***	-0.04 (.01)***	-0.04 (.01)***	-0.03 (.01)***
Units in other subsidized housing	-	-	-0.02 (.01)***	-0.02 (.01)***	-0.01 (.00)
Distance to polling place	-	-	-	-2.62 (.36)***	-2.71 (.38)***
Adjusted R²	.65	.66	.66	.66	.61†
LaGrange Multiplier (lag)	-	-	-	1062.97***	-
LaGrange Multiplier (error)	-	-	-	1026.98***	0.07

Model 1: Voting age population (VAP) and demographics only

Model 2: VAP, demographics, and public housing

Model 3: VAP, demographics, and all subsidized housing

Model 4: VAP, demographics, subsidized housing, distance to polling place

†: Pseudo-R² computed by SpaceStat

Note: All predictor variables are measured as percentages except distance to polling place.

Unstandardized estimates reported (SE of the estimates in parentheses).

Significance levels: * p <= .05; ** p<=.01; *** p<=.001

TABLE 6. WLS Regression results: Turnout for Democratic Mayoral Primary, 2001

Model	1	2	3	4	Spatial Lag
Constant	28.16 (.39)**	28.01 (.39)***	28.04 (.39)***	30.72 (.42)***	15.41 (1.9)***
Spatial lag	-	-	-	-	0.53 (.06)***
Size and eligibility of VAP					
Foreign born	-0.07 (.01)***	-0.08 (.01)***	-0.08 (.01)***	-0.08 (.01) ***	-0.04 (.01)***
People in institutional quarters	-0.28 (.03)***	-0.29 (.03)***	-0.30 (.03)***	-0.30 (.03) ***	-0.11 (.02)***
Demographics					
People below poverty level	-0.19 (.01)***	-0.16 (.01)***	-0.17 (.01)***	-0.18 (.01) ***	-0.10 (.01)***
Units in buildings with 10+ units	0.08 (.00)***	0.08 (.00)***	0.08 (.00)***	-0.07 (.00) ***	0.03 (.01)***
Population age 65 and over	0.36 (.02)***	0.38 (.02)***	0.38 (.02)***	0.37 (.02) ***	0.18 (.02)***
Hispanic voting age population	0.02 (.01)***	0.02 (.01)***	0.02 (.01)***	0.02 (.01) ***	0.00 (.01)
Subsidized housing					
Units in public housing	-	-.03 (.01)***	-.03 (.01)***	-0.03 (.01) ***	-0.01 (.01)
Units in other subsidized housing	-	-	0.01 (.01)	0.00 (.01)	0.02 (.01)**
Distance to polling place	-	-	-	-6.27 (.41)***	-4.65 (.42)***
Adjusted R²	.30	.31	.31	.33	.34†
LaGrange Multiplier (lag)	-	-	-	1522.46***	-
LaGrange Multiplier (error)	-	-	-	1580.26***	0.07

Model 1: Voting age population (VAP) and demographics only

Model 2: VAP, demographics, and public housing

Model 3: VAP, demographics, and all subsidized housing

Model 4: VAP, demographics, subsidized housing, distance to polling place

†: Pseudo-R² computed by SpaceStat

Note: All predictor variables are measured as percentages except distance to polling place.

Unstandardized estimates reported (SE of the estimates in parentheses).

Significance levels: * p <= .05; ** p<=.01; *** p<=.001

TABLE 7. WLS Regression results: Turnout for Mayoral general election, 2001

Model	1	2	3	4	Spatial Lag
Constant	45.90 (.35)***	45.74 (.35)***	45.65 (.35)***	46.82 (.39)***	25.57 (1.42)***
Spatial lag	-	-	-	-	0.48 (.03) ***
Size and eligibility of VAP					
Foreign born	-0.09 (.01)***	-0.10 (.01)***	-0.11 (.01)***	-0.11 (.01)***	-0.06 (.01) ***
People in institutional quarters	-0.34 (.03)***	-0.35 (.03)***	-0.34 (.03)***	-0.35 (.03)***	-0.17 (.02) ***
Demographics					
People below poverty level	-0.45 (.01)***	-0.42 (.01)***	-0.40 (.01)***	-0.40 (.01)***	-0.20 (.01) ***
Units in buildings with 10+ units	0.07 (.00)***	0.06 (.00)***	0.06 (.00)***	0.06 (.00)***	0.02 (.00) ***
Population age 65 and over	0.44 (.02)***	0.45 (.02)***	0.46 (.02)***	0.45 (.02)***	0.26 (.02) ***
Hispanic voting age population	-0.10 (.01)***	-0.10 (.01)***	-0.10 (.01)***	-0.10 (.01)***	-0.07 (.01) ***
Subsidized housing					
Units in public housing	-	-0.04 (.00)***	-0.05 (.01)***	-0.05 (.01)***	-0.04 (.00) ***
Units in other subsidized housing	-	-	-0.04 (.01)***	-0.04 (.01)***	-0.02 (.00) ***
Distance to polling place					
	-	-	-	-2.56 (.37)***	-3.12 (.37) ***
Adjusted R²	.67	.67	.67	.68	.65†
LaGrange Multiplier (lag)	-	-	-	1665.66***	-
LaGrange Multiplier (error)	-	-	-	1703.02***	2.54

Model 1: Voting age population (VAP) and demographics only

Model 2: VAP, demographics, and public housing

Model 3: VAP, demographics, and all subsidized housing

Model 4: VAP, demographics, subsidized housing, distance to polling place

†: Pseudo-R² computed by SpaceStat

Note All predictor variables are measured as percentages except distance to polling place.

Unstandardized estimates reported (SE of the estimates in parentheses).

Significance levels: * p <= .05; ** p<=.01; *** p<=.001

TABLE 8. Aggregate estimates from ecological inference, New York City 2000 and 2001 elections

	2000 Presidential Election	2001 Democratic Primary	2001 Mayoral Election
Public housing	50.5%	28.0%	26.3%
All other	64.0%	31.1%	40.7%
Subsidized other than public housing	49.9%	30.2%	22.7%
All other	64.4%	30.9%	41.5%
Public and all other subsidized housing	51.2%	29.2%	25.6%
Private market	65.5%	31.2%	42.5%